

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

**NORTHEAST UTILITIES SERVICE
COMPANY APPLICATION TO THE
CONNECTICUT SITING COUNCIL
FOR A CERTIFICATE OF
ENVIRONMENTAL COMPATIBILITY
AND PUBLIC NEED ("CERTIFICATE")
FOR THE CONSTRUCTION OF A
NEW 345-KV ELECTRIC TRANSMISSION
LINE FACILITY AND ASSOCIATED
FACILITIES BETWEEN SCOVILL
ROCK SWITCHING STATION IN
MIDDLETOWN AND NORWALK
SUBSTATION IN NORWALK, INCLUDING
THE RECONSTRUCTION OF PORTIONS
OF EXISTING 115-KV AND 345-KV
ELECTRIC TRANSMISSION LINES,
THE CONSTRUCTION OF BESECK
SWITCHING STATION IN
WALLINGFORD, EAST DEVON
SUBSTATION IN MILFORD, AND
SINGER SUBSTATION IN BRIDGEPORT,
MODIFICATIONS AT SCOVILL ROCK
SWITCHING STATION AND NORWALK
SUBSTATION, AND THE
RECONFIGURATION OF CERTAIN
INTERCONNECTIONS**

DOCKET NO. 272

MAY 24, 2004

**PRE-FILED TESTIMONY OF LAND-TECH CONSULTANTS, INC
ON BEHALF OF THE TOWN OF WOODBRIDGE**

- Q1. Please describe Land-Tech Consultants, Inc. ("Land-Tech"), including its areas of expertise.**
- A1. Land-Tech Consultants, Inc. is a multi-disciplinary environmental and engineering consulting firm established in 1979 to provide professional land use and public works consulting services. Land-Tech has offices in Southbury and Westport, Connecticut. Land-Tech staff includes

engineers and environmental scientists with advanced degrees and extensive experience in land-use evaluation, planning and design, environmental impact analysis and soil erosion and sediment control. Staff includes licensed Professional Engineers, Professional Wetland Scientists, Certified Professionals in Erosion and Sediment Control, Biologists and a Registered Soil Scientist.

Q2. Please identify the names and positions of the Land-Tech professionals responsible for this testimony.

A2. Christopher P. Allan, Senior Associate
Thomas S. Ryder, Senior Environmental Analyst

Q3. Please summarize your educational background, areas of expertise, certifications and professional affiliations.

A3. **Christopher P. Allan.** I graduated from the University of Bridgeport in 1979 with a major in Biology (program: Environmental Studies). In 1982, I received a Masters in Environmental Studies from the Yale School of Forestry and Environmental Studies.

I have expertise in environmental site assessments, upland and wetland habitat evaluations, environmental impact assessments, pond, stream and wetland evaluations, wetland creation and restoration projects, wetland delineation, wetland functional assessment, and erosion and sediment control planning.

I have the following certifications: Certified Soil Scientist, Professional Wetland Scientist #266; Certified Professional and Soil Erosion and Sediment Control #355; U.S. Fish and Wildlife Service, Habitat Evaluation Procedures.

I also maintain the following professional affiliations: the Society of Soil Scientists of Southern New England; Soil Science Society of America; Society of Wetland Scientists; Connecticut Association of Wetland Scientists; Massachusetts Association of Wetland Scientists; Soil

Conservation Society of America; International Erosion Control Association; and The New England Soil and Water Conservation Society.

Thomas S. Ryder. I graduated from Michigan State University in 1989 with a Bachelor of Sciences degree in Biology. In 1995, I received a Masters in Biology from the State University of New York College at Buffalo.

I have expertise in threatened and endangered species surveys, habitat assessments, wetland functional assessments, limnological and stream investigations, riparian investigations, fishery studies, habitat evaluation procedures, and rapid bio assessment protocols.

I maintain the following certifications: U.S. Fish and Wildlife Habitat Evaluation Procedures, and Groundwater Pollution and Hydrology. I am the Vice President of the Connecticut Association of Wetland Scientists and a member of the Wildlife Society, and the Society of Wetland Scientists.

Resumes for both Mr. Allan and Mr. Ryder are attached hereto as Exhibit B.

Q4. Please summarize any related work experience.

A4. Land-Tech has been involved in countless projects concerning environmental assessment and impacts, including the following:

- Land-Tech Consultants conducted a review of application materials submitted to the Connecticut Siting Council in Docket 217 concerning the 345 kV overhead transmission line from Bethel to Norwalk. The review included an on-site inspection of the right of way in the Towns of Bethel, Redding, Weston and Wilton to identify wetlands and sensitive habitats and an assessment of the adequacy of application's natural resource inventory. The review included an assessment of potential environmental impacts associated with the project and testimony before the Connecticut Siting Council.

- Land-Tech was invited to make a presentation before the Working Group established by P.A. 02-95 regarding the use of natural resource information to be considered in the planning of proposed utility corridors. We recommended that the Siting Council's application process be modified so that the natural resource information and potential environmental impacts resulting from the utility construction and operation are included in the initial application process and prior to the Council's action rather than during the Development and Management Plan phase. This recommendation was adopted by the Working Group and resulted in the Connecticut Siting Council's Application Guide for Terrestrial Electric Transmission Line Facilities, dated September 9, 2003, as adopted in Docket 259.
- Participated in the creation of the Connecticut Guidelines for Soil Erosion and Sediment Control, including authoring revisions to the guidelines. Conducted seminars and site evaluation in erosion and sediment control plan design in coordination with the Soil Conservation Service.
- Conducted a literature review of the impacts on water quality posed by residential development for the Litchfield Hills Council of Elected Officials under a grant from the U.S. Environmental Protection Agency, administered by the Connecticut Department of Environmental Protection. The study included the preparation and publication of a 260-page report entitled Carrying Capacity of Public Water Supplied Watersheds: A Literature Review of Impact from Water Quality from Residential Development. The report was intended to assist the municipalities in and outside the region in defining the carrying capacity of public water supply watersheds and identifying impacts to water quality posed by development.

- Land Tech rewrote and edited Protecting Connecticut's Water Supplied Watersheds: A Guide for Local Officials, under a grant from the Connecticut Department of Environmental Protection. Completed a review of municipal regulations and non-regulatory programs of New Hartford and Torrington, Connecticut, including recommendations related to the revision of municipal regulations to afford greater protection of public drinking water quality for development impacts. This study was funded by a grant under §205 of the Clean Water Act.
- Assisted the Connecticut Department of Environmental Protection in updating the NPS Assessment & Management Plan. The purpose of the plan is to identify priority watersheds and watercourses including the Saugatuck River for application of best management practices to control the introduction of non-point sources of pollution.
- Land-Tech has prepared five (5) new facility and five (5) exempt modification applications for presentation to the Siting Council on behalf of AT&T Wireless and its predecessor Litchfield County Cellular. This work has all been within the Litchfield County service area. To date Land-Tech has conducted detailed evaluations for thirty-six (36) proposed cell sites and prepared ten (10) applications for presentation before the Siting Council. Land-Tech has provided D&M plan inspection and compliance reporting as well as participating in the public hearing process for each application.
- Conducted a bioassessment and benthic macroinvertebrate survey of Sodom Brook in Meriden using the U.S. Environmental Protection Agency Rapid Bioassessment Protocol III. Assisted the City of Meriden in obtaining a water diversion permit for the operation of an existing water supply reservoir. Consulting services included an evaluation of existing shoreline and wetland habitats in

existing downstream fisheries resources and potential impacts on these resources.

- Assisted Bridgeport Hydraulic Company, now Aquarion Water, in obtaining a water diversion permit for the operation of existing water supply well fields. Consulting services included an evaluation of well water withdrawal on wetland (bog) habitats, existing downstream fisheries resources and potential impacts on those resources. Connecticut and jurisdictional wetlands were delineated and an environmental survey of the physical and biological parameters of the wildlife pond was conducted. An earthen dam and transitional pond were designed to create a 16-acre wildlife pond/marsh adjacent to Macedonia Brook State Park. Local and DEP, §401 Permit Applications were prepared.
- Floral soils and hydrologic evaluations were conducted for the development of a fire pond in Walden Woods, Weston, Connecticut.
- Under §319 of the Clean Water Act, updated Connecticut's non-point management plan to comply with EPA criteria and identify priority areas for action.

Q5. What is the purpose of your testimony?

A5. Land Tech was retained by the Town of Woodbridge to evaluate the existing natural communities along the right-of-way (the "ROW"), the areas adjacent to the ROW, including access roads, and to determine the nature of the probable environmental impact, including effects on and in conflict with the policy of the State concerning the natural environment, ecological balance, scenic and recreational values, forests and parks, water purity, and fish and wildlife.

Q6. What were the parameters of your study?

A6. Our Scope of Work consisted of the following: 1) review the CL&P application, and pre-hearing questions, 2) conduct a field inspection of the ROW within Woodbridge to determine if all regulated areas and potential impacts have been adequately addressed in the Application, and 3) prepare a report of findings on the above information.

Q7. Please explain how you conducted your study?

A7. The application documents and pre-hearing questions were reviewed by one or more of the personnel listed above, the ROW was inspected by Chris Allan and Tom Ryder, field data were compiled and tabulated and a report of findings was prepared.

Q8. How did you conduct your field work?

A8. The entire proposed ROW was walked from the Bethany/Woodbridge Line to the Woodbridge/Orange Line. The ROW was divided into segments, consisting of the areas between poles. Each segment was evaluated to determine the following within and adjacent to the ROW: 1) dominant community type (meadow, shrub, etc), 2) presence/absence of wetlands and watercourses, 3) suitability of access to existing and proposed poles and, 4) potential impacts to natural resources associated with that segment. This information was recorded in the field on data sheets for each segment unless adjacent segments were similar. In that case one sheet represented more than one segment. These data were then summarized and presented in our Ecological Impacts Assessment.

Q9. Did you prepare an Ecological Impacts Assessment?

A9. Yes. We identified the community types and dominant vegetation supported by each segment. We also identified the presence/absence of wetlands and watercourses, vernal pools and other amphibian breeding areas within each segment. We identified areas within close proximity to the ROW identified by the CT NDDDB as habitats potentially supporting protected and special concern species. We also identified numerous potential impacts to natural resources from proposed ROW improvements such as access road improvements, and pole placement. This assessment is attached hereto as Exhibit A.

Q10. Does either the application or responses to pre-hearing questions describe the nature of the probable environmental impacts, including a specification of every significant environmental effect, whether alone or cumulatively with other effects, on, and in conflict with, the policies of the state concerning the natural environment, ecological balance, forests and parks, air and water purity and fish and wildlife? Please describe.

A10. Many of the impacts are presented, however, some sensitive resources were not included in the Application and therefore their impacts were not evaluated by the Applicant. For example, the Applicant did not identify any vernal pools within the ROW of Woodbridge. Our investigation identified five vernal pools and an additional well functioning amphibian breeding pool. The Application proposes work within and directly adjacent to these pools. Our identification of these vernal and breeding pools, which were not reported by the Applicant, requires modifications to the proposal to protect these sensitive systems. Our review of the application indicates that there could be significant impacts to wetlands and watercourses, including temporary disturbance and permanent fills. We believe that potential impacts have been understated by the Applicant.

Q11. Does the proposed overhead transmission line (including the new poles and potential access ways) cross any significant natural resource areas? If so, please identify them.

A11. Yes, significant natural resource areas that we have identified are listed below

1. The area from the Woodbridge/Bethany town line to just south of Dillon Road is located within a public water supply watershed operated by the South Central Connecticut Regional Water Authority. This area encompasses Wetlands 121, 122 and 123 (Glen Dam Reservoir).
2. The Glen Dam Reservoir and vicinity. This reservoir is part of a public water supply and the associated area support the State Species of Special Concern Red-shouldered hawk.
3. Wetland 133. This wetland is the largest wetland within the ROW in Woodbridge. The wetland system contains Race Brook which is a DEP stocked Trout Stream, possesses a large flood plain area capable of attenuating storm flows from Race Brook and contains a large diverse mosaic of vegetative community types and wildlife habitat.

In addition suitable amphibian breeding and vernal pools were found along and adjacent to the ROW. Some of the more significant ones are summarized in the following table.

Aerial Segment	Description
106	Amphibian breeding pool in Wetland 122 just west of pole 3957, contained two spotted salamander egg masses.
109	Vernal pool in Wetland 124 along east side of ROW, approximately 10 feet east of proposed pole 3950. Forty two spotted salamander egg masses were identified.
116	Vernal pool in Wetland 130, adjacent to pole 5131, wood frog egg masses identified.

121	Vernal pool in Wetland 133, approximately 100 feet south of pole 3918. Approximately 40 wood frog egg masses were identified.
122	Vernal pool in Wetland 133 north east of pole 3917, wood frog egg masses were identified.
125	Vernal pool in Wetland 138, between poles 3907 and 3908, moderately large wood frog chorus heard. The larger wetland system is suitable habitat for the State Species of Special Concern eastern box turtle.

Q12. Please describe your findings regarding impacts to wetlands and watercourses in Woodbridge as a result of this proposed Project.

A12. A tabulation of wetland disturbance impacts is included in *Table 1*.

Wetland Impact Summary, which is attached to our report. The table shows areas of wetland disturbances and areas of permanent wetland fills within the Woodbridge portion of the CL&P right of way resulting from the proposed 345 kV upgrade. Areas of disturbance and permanent wetland fills were determined using the 100 scale aerial photographs (Volume 11, Segments 104-126) and the stated size of potential impact areas resulting from pole installation and removal, access road construction and conductor pulling sites included in Volume 1, Sections J and K.

The table also includes potential indirect wetland impact areas where vernal pools and amphibian breeding pools were identified and areas where regrading on steep slopes could result in erosion and sediment impacts on wetlands or watercourse.

As can be seen from the table, there is a significant amount of wetland disturbance and permanent filling required for upgrading the power line right of way within Woodbridge. Approximately 7.3 acres of wetlands will be disturbed and approximately 4.3 acres of wetlands will be permanently filled.

Our evaluation of the potential environmental impacts indicates that there is the potential for significant wetland and watercourse impacts associated with the proposal within the Town of Woodbridge, including the permanent loss of about 4 acres of wetlands. The submitted data does not support the Applicant's conclusion in the Executive Summary of Volume 1 of the Application that "the project will not result in any significant long-term adverse environmental impacts."

Q13. Would the proposed overhead transmission line require a permit from the U.S. Army Corps of Engineers?

A13. Yes, either a Programmatic General Permit or an Individual Permit will be required based on the amount of jurisdictional wetland impacted.

Q14. Did the Applicant accurately report the existence of vernal pools within the ROW in Woodbridge?

A14. No. The Applicant did not identify any vernal pools within the ROW in Woodbridge. On the other hand, our investigation identified five vernal pools and an additional well functioning breeding pool. The Application proposes work within and directly adjacent to these pools. Our identification of these vernal pools requires modifications to the proposal to protect these sensitive systems.

Q15. Please describe your findings regarding impacts to birds and endangered species in Woodbridge as a result of this proposed Project.

A15. BIRDS - Several species of birds utilize the open meadow or scrub/shrub (thickets) of the right-of-way to nest and/or forage. These species are particularly vulnerable to vegetation impacts during the nesting season. Section M.3.4 of the "Potential Environmental Effects and Mitigation Measures" report states that that no vegetation clearing or management

will be conducted during the breeding season (April 1 to August 15). However, a concern that has not been addressed is the impacts to the winter residents that occupy the open canopy habitats of the maintained ROW. These maintained meadows or scrub/shrub habitats are not common in Connecticut. Species known in the area that utilize these habitats in the winter include the catbird, white-throated sparrow, towhee, winter wren, tree sparrow, field sparrow (species population in major decline), yellow-rumped warbler, pine warbler and brown thrasher¹, which is a Species of Special Concern. Disturbance to these species and others utilizing the ROW in the winter from the construction/improving of access roads, installation/removal of poles and other activities needs to be addressed.

THREATENED, ENDANGERED OR SPECIAL CONCERN SPECIES -

A sun bleached carapace from an adult box turtle was found approximately 75 feet east of pole 2399. The adult appeared to have died in the spring or early summer of 2003 due to its bleached appearance. It is likely that a population of box turtles inhabits the wet meadow and wooded habitat of this area.

A box turtle (age and sex not described) was identified by SSES in wetland 125. This finding, if not provided already, should be reported to the DEP's Natural Diversity Database.

The Species of Special Concern red-shouldered hawk (*Buteo lineatus*) has been reported by the Connecticut Department of Environmental Protection's Natural Diversity Database (NDDDB) to occur in the vicinity of Glen Lake in Woodbridge. The DEP recommends avoiding the area during the nesting season of February to July and that a sufficient undisturbed buffer zone be put in place once the nests are identified to further reduce the chance of disturbing the nesting behavior of this species.

¹ Personal communication, Dr. Christopher Loscalzo, past president of New Haven Bird Club

The Applicant states (page L-46 Section L 3.7) that if avian surveys identify that a protected or special concern species is nesting near the ROW, construction would be scheduled so as to avoid the nesting season of February through July. However, the Application does not mention conducting wildlife surveys as part of the construction sequence and does not indicate who will be notified of the results. This information should be provided.

Q16. Please describe impacts to Regional Water Authority Watershed Land?

A16. The area from the Woodbridge/Bethany town line to just south of Dillon Road is located within a public water supply watershed operated by the South Central Connecticut Regional Water Authority. This property is owned by the water authority and is restricted from public access for source water protection purposes. This area encompasses Wetlands 121, 122 and 123 (Glen Dam Reservoir). It is essential that all efforts to avoid or minimize impacts to these wetlands and associated watercourses be employed due to their water quality sensitivity as part of a public water supply. Previous surveys conducted by the Connecticut Breeding Bird Atlas Project and the New Haven Bird Club have documented that 193 bird species, of the 200 species expected to breed in the area, have been observed on or near the water authority property². Of the 193 species observed, 180 bird species have been confirmed nesting over several years.

Q17. In your professional opinion, what is the best way to avoid the impacts to wetland, watercourses, vernal pools, amphibian breeding, area, species of special concern, watershed land, and birds in Woodbridge?

A17. From an environmental perspective, an underground route is preferred. The placement of the 345-kv line underground along existing public roads

would eliminate the impact concerns of the overhead proposal set forth in the Application. The installation of an underground line is not expected to significantly impact wildlife along the route, as minimal alteration to vegetation is required. Access roads and pole installations, the major cause for concern in Woodbridge, would not be required. The only impact to the environment would be a narrow trench that will be placed along the existing roads.

Impacts to wetlands and watercourses due to crossings are expected to be significantly less than the overhead alternative. The reason for this is two fold. The first is that the underground route follows existing roads, which typically cross narrow portions of wetlands and watercourses. The second reason is that most of these sensitive habitats have already been spanned allowing the transmission line to be attached to the various bridges and, therefore, greatly minimize the required impacts to these systems.

² Forest Management Plan for the South Central Connecticut Regional Water Authority. Published by the Regional Water Authority, dated 1989.